

CLAIMS

1. A magnetic bridge power sensor comprising a magnetic bridge, the magnetic bridge including:

a magnetic circuit 1 having two ends;

magnetic circuits 21a and 21b each having two ends, one of the two ends of each of the magnetic circuits 21a and 21b being connected to one of the two ends of the magnetic circuit 1;

magnetic circuits 22b and 22a each having two ends, one of the two ends of each of the magnetic circuits 22b and 22a being connected to the other end of the magnetic circuit 1, the other ends of the magnetic circuits 22b and 22a being connected to the second magnetic circuits 21a and 21b, respectively;

a magnetic circuit 2 having two ends, the two ends being connected to a connection point between the magnetic circuits 21a and the magnetic circuits 22b and to a connection point between the magnetic circuit 21b and the magnetic circuit 22a, respectively;

an excitation coil 3 provided to be able to generate a magnetic flux in the magnetic circuit 2; and

a magnetic flux detection coil 4 provided to be able to detect the magnetic flux in the magnetic circuit 1,

wherein a voltage of a measurement target alternating-current power line 5 is applied to the excitation coil 3, and a current proportional to the voltage is carried to the excitation coil 3, and an output of the detection coil

4 is synchronously detected by a signal having a phase synchronized with a phase of the voltage of the measurement target alternating-current power line 5 at a frequency twice as high as a frequency of the voltage of the measurement target alternating-current power line.

2. A magnetic bridge power sensor comprising a magnetic bridge, the magnetic bridge including:

- a magnetic circuit 1 having two ends;

- a magnetic circuits 21a and 21b each having two ends, one of the two ends of each of the magnetic circuits 21a and 21b being connected to one of the two ends of the magnetic circuit 1;

- a magnetic circuits 22b and 22a each having two ends, one of the two ends of each of the magnetic circuits 22b and 22a being connected to the other end of the magnetic circuit 1, the other ends of the magnetic circuits 22b and 22a being connected to the magnetic circuits 21a and 21b, respectively;

- a magnetic circuit 2 having two ends, the two ends being connected to a connection point between magnetic circuit 21a and the magnetic circuit 22b and to a connection point between the magnetic circuit 21b and the magnetic circuit 22a, respectively;

- an excitation coil 3 provided to be able to generate a magnetic flux in the magnetic circuit 2; and

- a magnetic flux detection coil 4 provided to be able to

detect the magnetic flux in the magnetic circuit 1,

wherein a current, which is obtained by subjecting a current proportional to a voltage of a measurement target power line 5 to at least one of an intermittent processing and an inverting processing, is carried to the excitation coil 3, the current of the measurement target power line 5 is carried to a detection target current conductor 5a, and an output of the detection coil 4 is synchronously detected by a signal having a phase synchronized with a cycle of the intermittent processing or the inverting processing at a frequency twice as high as a frequency of the intermittent processing or the inverting processing.